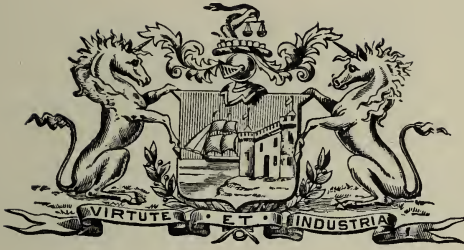


1899.



Bristol Port Sanitary District.

ANNUAL REPORT

OF THE

Medical Officers of Health,

AND OF THE

CHIEF PORT INSPECTOR OF NUISANCES,

FOR THE YEAR 1899.

—:O:—

Printed by order of the Port Sanitary Committee.

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BRISTOL:

BENNETT BROTHERS, LD., PRINTERS, COUNTERSLIP

—
1900

BRISTOL PORT SANITARY AUTHORITY.

Port Medical Officer of Health—

D. S. DAVIES, M.D., D.P.H.

Assistant Port Medical Officer of Health—

J. C. HEAVEN, L.R.C.P., M.R.C.S., D.P.H.

Chief Port Inspector of Nuisances—

S. O. DIMOND, *Cert. Insp. San. Inst.*

Port Sanitary Inspector at Avonmouth—

A. DICKENS.

*Avonmouth Hospital Caretaker and Assistant Inspector
and Boatman.*

J. REX.

Caretakers on Hospital Ship—

C EADE, T. L. PRESS.

Master of S.S. "Luath"—

GEO. JACKSON, (*Holding Pilot's Certificate for Bristol
Channel.*)

BRISTOL PORT SANITARY DISTRICT.

Report of the Medical Officer of Health and of the Chief Port Inspector of Nuisances, for the Year, 1899.

To THE CHAIRMAN AND MEMBERS OF THE
BRISTOL PORT SANITARY AUTHORITY.

January, 1900.

GENTLEMEN,

The Port Sanitary District of Bristol was permanently constituted on 1st August, 1894. It extends down the Bristol Channel to Swallow Point, and up Channel as far as the line of the Severn Tunnel, and comprises the deep water channel to the Port of Gloucester. Hence under special Orders, various super-added duties of inspection, control and responsibility in regard to Cholera, Plague and Yellow Fever have, since 1890, devolved upon the Bristol Port Officers. The Bristol City Council is the permanently constituted Authority for the Port District.

TONNAGE FROM FOREIGN PORTS—arriving at Bristol Docks during 1899 (net register tons).

City Docks.	Avonmouth.	Portishead.	Total for whole Port.
533,462	286,638	37,670	... 857,770

GRAIN IMPORTS—(Quarters.)

City Docks.	Avonmouth.	Portishead.	Total for whole Port.
1,819,231	1,264,774	355,306	... 3,439,311

General Inspection of Ships.

Details of the general Sanitary Inspection of Ships are contained in the appended Report of the Chief Port Inspector.

Infectious Disease on Board Ship.

The Infectious Disease Notification Act, came into force for the Port District on May 1st, 1897, and in regard to Notification replaces Regulations previously in force. The diseases included in the Act as applied to the Port Sanitary District, comprise Plague, Yellow Fever, and Measles, in addition to those scheduled in the Act as applied to the Urban District.

Under the provisions of this Act, the master or other person in charge of any ship, vessel, or boat, is bound, under a penalty of Forty Shillings in default, as soon as he is aware of the existence of any one of these diseases on board, viz. :—

Plague	Membranous Croup	Typhus
Yellow Fever	Measles	Typhoid
Small Pox	Erysipelas	Enteric, Relapsing,
Cholera	Scarlatina or	Continued or
Diphtheria	Scarlet Fever	Puerperal Fever.

To give notice thereof to the Medical Officer of Health.

Regulations for the Removal of Patients to Hospital.

No difficulty has ever occurred in securing removal of patients to Hospital from on board ship, and should any occur the powers under Sec. 124, Public Health Act, would be sufficient. It has seemed unnecessary to re-make special Regulations in regard to removal under Sec. 125, as we have special powers under the Cholera, Yellow Fever and Plague Order. Nor are Regulations needed prescribing detention in Kingroad for ships having home diseases on board, such as Small-pox or Scarlet Fever; which, so long as they are notified on passing Avonmouth to allow the Inspector there to take charge, may at once take the river and be dealt with at the City Docks on arrival: there need be no more danger about a ship with a case of Scarlet Fever aboard than there is about a house in the district with a case of Scarlet Fever in it; and detention in Kingroad is inadvis-

able under the conditions of our tidal river; and, while offering no special administrative advantage, would cause considerable loss and inconvenience.

In the case of Cholera, Yellow Fever and Plague, it is quite otherwise, and detention at a special mooring for Medical Inspection is imperative under the Special Order.

Plague.

Since the 1894 epidemic in Hong Kong, and the subsequent extension of this disease to British India; the further progress of Plague has been carefully watched.

Plague Regulations.

In 1896 the Local Government Board issued a General Order under date 9th November, repealing the old Quarantine Regulations, and placing the control of ship-borne Yellow Fever and of Plague in the hands of Port and Riparian Authorities under Regulations similar to those already in force in regard to Cholera.

Under the new Regulations the Officer of Customs will still act in conjunction with the Port Sanitary Authority, (Part 2, Art. 2,) and will detain "*infected*" or "*suspected*" ships for 12 hours, awaiting Medical Inspection. Thereupon the duties as to Medical Inspection, Medical examination, removal and nursing of patients, isolation of suspected cases, burial, disinfection, forward notification of persons leaving the ship in apparent health for other districts, control over infected bilges and ballast tanks, and over water supplies, devolve upon the Port or Riparian Authority exactly as in the case of Cholera.

The Regulations also provide for the hoisting by the Master of every infected ship when coming within three miles of the coast of a special flag. No provision is made, however, for night signals. The penalty for neglect or obstruction to the execution of the Order is £100, with a continuing additional daily penalty of £50.

Port of Gloucester—Plague Regulations.

As the deep water channel to the Port of Gloucester passes through the Bristol Port Sanitary district, and as there are no facilities for the safe anchorage of vessels outside the entrance to the Port of Gloucester, the Local Government Board in 1890, placed the duty and responsibility of dealing with Cholera in Gloucester bound ships upon the Bristol Port Sanitary Authority, and by a further Order under date 24th April, 1897, they extended the Order to Yellow Fever and Plague: the care of these has in consequence devolved as an honorary duty upon the Port Officers, and in Cholera years have involved considerable additional work and responsibility. Working expenses are repaid by Gloucester to the Bristol Port Authority.

BRIEFLY, THE ORDER PROVIDES—

- (a) ART. II. With regard to ships bound to the Port of Gloucester, which are brought up for customs purposes within the Port of Bristol:—

Bristol Customs Officers deal with ship and detain as if bound to Bristol, sending notice to Bristol Medical Officer of Health. Thereupon Bristol Officers deal with ship and send notice to Gloucester.

- (b) ART. III. With regard to ships bound to the Port of Gloucester, which are brought up for customs purposes within the Port of Gloucester:—

The Gloucester Officer of Customs and Medical Officer of Health act in this case, and if ship is found to be infected, she is returned to the King-road mooring station in charge of the Gloucester Medical Officer of Health, who hands over the care of the ship to the Bristol Medical Officer of Health on his arrival.

- (c) ART. IV. The Bristol Port Medical Officer of Health when, and as requested by the Gloucester Port Sanitary Authority, examines all or specified ships bound to the Port of Gloucester.

Plague.

In January, 1897, a Medical Inspector of the Local Government Board visited Bristol with respect to precautions against the possible introduction of this disease into England from the infected districts in India.

In April of that year a "forward Notification" of a passenger *viâ* Southampton, *ex* a troopship from Bombay, on board of which a death from Plague had occurred, was received.

In 1898, three "forward Notifications" were received from Plymouth on 28th August, 8th December, and 26th December, relating to passengers arriving *ex* steamships from Bombay, and coming into the district of Bristol.

In 1899 "forward Notifications" were received from London on 18th September, from Southampton on 4th and 24th October, and from Cardiff on 15th November, relating to passengers arriving *ex* steamships from Spain and Portugal.

Seven other passengers also arrived in Bristol direct from infected Ports, and were carefully watched in the usual way.

In consequence of the spread of Plague to Alexandria, instructions were issued to the Port Inspectors on 24th May, 1899, to carefully watch arrivals from Alexandria and Egyptian Ports.

On 16th August, 1899, a communication was received from the Local Government Board, notifying the epidemic prevalence of Bubonic Plague at Oporto, where 25 cases and 4 deaths were reported to have occurred since July 4th; and advising that special attention should be directed to any vessels arriving from Oporto.

On Monday, August 21st, Dr. Reece, a Medical Inspector of the Local Government Board, visited Bristol and conferred with the Port Sanitary Authority and the Collector of Customs in reference to Plague precautions in the Port of Bristol.

On 29th August, a request was received from the Gloucester Town Clerk to inspect all arrivals bound to Gloucester, from Oporto, Alexandria and Spain, or from any other infected or suspected Port.

Notice to Pilots.

In September 1899, the Haven Master (Captain Parsons, R.N.) re-issued the Notice to Pilots:—instructing them to Warn all Vessels from Plague-infected Ports to anchor in Kingroad for Customs interrogation, precisely as in the case of Cholera in previous years.

Disinfection was carried out on 5 Vessels from Infected Ports during the year, especial efforts being made to exterminate the Rats on board, for reasons detailed below.

On November 9th, the Collector of Customs called upon me in respect to a General Order ⁷⁴₁₈₉₉, issued from the Custom House, London, under date 31st October, and instructing Officers of Customs to supply information as to the arrival of Vessels, and in all other ways to assist the Medical Officer of Health in the execution of the orders relating to Plague.

The Bristol Officers of Customs have always rendered such prompt and valuable aid in the furtherance of our port duties, that I did not need the Collector's assurance that this aid would be continued.

Communication was held with the Local Government Board in September with regard to the supply of Plague Anti-toxin, for use in case of the introduction of Plague: the Board replied that the matter was under their consideration.

Plague.—Methods of Extension. Rats an important cause of Spread.

Plague is a disease resembling, perhaps, Typhus fever more than any other home disease in its method of spread from person to person by direct infection. It finds a suitable home, as does Typhus, in localities whose insanitary condition connotes overcrowding, poverty, and stagnant air; conditions favourable to the intensification and transmission of the specific poison. If this were all, the method of medical inspection, isolation, and forward notification, would suffice to prevent its introduction, or at least to stamp it out before any serious spread occurred. But recent study of the disease has shown that Plague is epizootic as well as epidemic, that is, it affects certain animals (rats especially) as well as man, the two infections run together, and thus two epidemics have to be fought simultaneously, one above ground, the other below ground.

The disease has been observed in recent epidemics to spread slowly at first, but always with a tendency to get "set" in a place; sometimes, after apparent subsidence, to re-appear in a fresh quarter (due to migration of affected rats); and in India at any rate, to defy extinction over a series of years. Since its advent in India in 1896 it has caused over a quarter of a million deaths.

Rats have been demonstrated to have direct relation to the spread of Plague by Yersin, Hankin, Cantlie*, Simond, Weir, Surg. Col. Bainbridge, Dr. Doriga†, Dr. Calmette and others. The following is a brief resumé of the chief facts:—

1. Kitasato (who discovered the plague bacillus) Yersin and others have found the specific bacillus of plague in the dead bodies of rats and mice, collected in houses in which cases of the disease subsequently broke out among the occupants, or in the streets of

*Transac. Epidem. Soc., New Series Vol. XVI. 1896-97.

†Revue d'Hygiène Aug., 1899. "Public Health" November, 1899, January, 1900.

infected towns. They have also placed beyond question the great susceptibility of these rodents to the bacillus.

2. In all the infected towns of India, manifest examples of contagion from rats to men have been observed. At Bombay, in certain establishments where the dead bodies of rats were found, it has been noticed that the persons who collected them alone contracted plague, although many other workpeople were engaged at the same place.
3. The first cases of the disease have sometimes appeared in warehouses where wheat, cotton, seed, or other substances likely to attract rats were stored. At Kurachee, where the warehouses are situated in streets without dwelling houses, the first sufferers were the caretakers.
4. Well constructed and well maintained houses, *i.e.*, where rats cannot find harbour, nearly always remain free from plague. On the other hand is to be observed the permanence of infection in the houses of poor natives, notwithstanding the removal of the residents and furniture and the most rigid disinfection, because of re-infection from infected rodents.
5. The epidemics at Bombay, Kurachee and Karod were chiefly localised in quarters where the disease had broken out amongst rats. The spread of infection in other parts of these same towns was regularly preceded by the immigration and death of rats, and its diffusion always corresponded to the route of travel taken by these rodents in their migration.
6. In healthy countries adjoining infected, the disease broke out amongst the inhabitants without the importation of a single human case, but was preceded by the immigration of rats from an infected place.

7. In many countries and towns the development of the epidemic among the inhabitants followed a month after the importation of the first cases, or after the death of fugitives arriving from infected localities. During the interval the plague had been propagated by rats or mice.
8. The mode of infection and propagation of plague on certain ships proved that the rats on board had been the vehicles of contagion.
9. A well demonstrated connection exists between the plague of man and that of rats or mice. The same specific agent (the *Bacillus Pestis*) is the cause of each. It is communicable from rat to man or man to rat. Either one or the other may be the vehicle of contagion from place to place. Although the transference of infection from a sick man to a healthy man does occasionally occur, the rat seems to be the chief and almost necessary agent of the epidemic diffusion of plague.

The rat is far more dangerous than the mouse, because of its migratory instinct, which becomes an uncontrollable scourge, carrying contagion into distant quarters of a city or into adjacent countries.

Necessary Measures of Precaution.

1. Owners of Riverside Warehouses and Granaries should make systematic effort to exterminate rats, The mongoose is stated to have proved useful, or the professional ratcatcher may be engaged. Notice to this effect was forwarded to the General Manager of the Bristol Docks in August.
2. Shipowners should note the possibility of infected rats being introduced from infected ports: and adopt precautions when loading at such ports:—

- (a) The mooring cables should be guarded, by special conical collars.
 - (b) Footbridges should be raised during the night.
 - (c) Before loading the absence of rats should be ensured, by trapping, poisoning, or fumigation ; dead rats should be burnt.
3. On arrival, the practical difficulty is to destroy the rats, (which can only be reached by fumigation,) without injuring the cargo. Ratcatchers are occasionally employed and a price given for rats caught ; discretion must be used not to encourage importation of rats to secure the reward.

We have found fumigation with sulphurous acid gas effectual in destroying the rats in the closed hold, but this can only be used after the cargo is cleared out.

Dr. Calmette, who was sent by the French Government to investigate the recent outbreak of Plague in Portugal, has given an interesting account of his mission to the Société de Médecine Publique in Paris. He preaches a crusade against rats and mice as a measure of prevention. The French Government has already taken steps for the destruction of these rodents in ships arriving from plague infected ports.

Dr. Calmette recommends that the discharge of cargo, especially grain and cotton, from places where plague exists, should be strictly forbidden till after the most rigorous inspection has been made. Bales and sacks should be opened and their contents emptied out and examined. If any dead rats are found, the whole must be destroyed without the ship being allowed to touch the quay. Further, a war of extermination should be declared against rats at home. A price should be put upon their heads, and he suggests that 50,000 francs (£2,000) be voted for the purpose. A capitation grant of 10 centimes, or one penny per rat would ensure the destruction of half a million rats.

In Denmark a campaign is already being carried on upon these lines. A price was put upon their heads, and an official report of the progress of the campaign in Copenhagen is issued weekly. In the first week the number was 6,000, in the second 6,616, in third 6,780. More recently the number has risen to 10,000. Other towns and communes have followed this example, and it is hoped that in no long time the rat will be extinct in Denmark.

In Russia a similar war has begun. At Odessa the following device to protect passage of rats over mooring ropes, has been used. The cable is run through a piece of iron pipe about a foot in length, and welded on the end of the pipe is a flange, a funnel which resembles the end of a trumpet with the wide end facing the ship. The iron pipe is stuffed with oakum to prevent slipping, and to prevent rats from passing through it : this is fixed on the ropes close to the ship.

With any recrudescence of Plague on the Continent, the question will at once assume a complexion of grave interest to this country : and in the elaboration of preventive measures it is necessary that the importance of the rat as a disseminator of this disease be not forgotten.

D. S. DAVIES, M.D.,

Port Medical Officer of Health.

J. C. HEAVEN, L.R.C.P.,

Assistant Port Medical Officer of Health.

REPORT OF THE CHIEF PORT SANITARY INSPECTOR For the Year 1899

PORT SANITARY OFFICES,
40 PRINCE STREET, BRISTOL.

February, 1900.

TO THE CHAIRMAN AND COMMITTEE OF THE
BRISTOL PORT SANITARY AUTHORITY.

GENTLEMEN,—

I have the honour to present the 15th Annual Report of Port Sanitary Inspection of Ships in discharge of the duties imposed by the provisions of the Public Health Acts, 1875, and the orders of the Local Government Board made thereunder, in order that any case of infectious disease imported or occurring may be reported to and dealt with by the Port Medical Officer of Health, and that the Health conditions of crew spaces on board Ships shall be maintained in good order by attention to Sanitary requirements.

To ensure that the 1st condition is obtained, all vessels arriving at the River mouth or Kingroad from foreign ports are visited by the Inspector stationed at Avonmouth.

Then all enquiries are made as to the health of the crews and passengers on the voyage, and should any infectious or suspicious case exist, or have occurred, immediate information is forwarded by the quickest means to the Medical Officer and Chief Inspector, and if necessary the Ship remains at moorings in Kingroad until the case has been dealt with, and in cases not covered by Special Orders, every care is taken to prevent spread of infection until removal and disinfection have been effected at Cumberland Basin.

In this work a Row Boat is used, or when ships from infected or suspected Ports are expected, your Steam Launch is employed, which enables the examination to be made in the Channel and without causing unnecessary delay to the ships, and in this work both day and night tides are watched as required.

To comply with the Provisions of the Public Health Act, which provides that a Ship shall rank as a House, all Ships from foreign ports are inspected in detail on or as soon after arrival as possible, as the stay of Steam Vessels is often of short duration, sometimes but a few hours, and at most but a few days; but the regular Traders are visited at intervals as found requisite.

This course is regularly adopted, with the results set out in the following tables, etc.

The Sanitary requirements provide that living spaces for Seamen shall be of such size as to give sufficient space for the accommodation of the inmates in accordance with the Merchant Shipping Act Regulations, shall be securely constructed and protected from weather and sea, sufficiently lighted and ventilated and protected from effluvium from holds, bilges, cargo, stores, closets, or foul deposits of any kind, as far as possible.

The primary supervision of these places when under construction rests with the Board of Trade Officers, but their maintenance devolves upon Local Port Sanitary Authorities, and the necessity of this supervision is proved by the large number of defects and nuisances discovered and remedied year by year.

These defects are the results of varying causes, viz:—wear and tear, accidents, stress of weather, natural decay, bad construction, and, sometimes, neglect of officers or crews.

Bad drinking water and unclean vessels for containing supplies are not uncommonly found, and bad provisions to a certain extent, but they can only be dealt with as a nuisance under Section 91 of the Act, unless exposed for sale; much is however, done when necessary by reporting cases to the proper quarter.

Most of the chief causes of complaint mentioned in earlier Reports were again apparent, but in a lessened degree; and the result of the year's work goes to show that a steady advance is taking place in the general housing conditions of seamen, as the result of the work done by Port Sanitary Authorities.

If the Board of Trade Authorities were furnished with more power to determine the position and construction of crew spaces, and the relative positions of closets, oil, paint, and lamp lockers, many of the insanitary conditions now experienced would be eliminated, as then the openings to such places could be kept at sufficient distance to prevent effluvium therefrom entering the crew spaces, which now is very often the case; the oil and paint lockers and lamp-rooms are sometimes placed so as to be positively dangerous in case of fire, entirely blocking all means of egress.

General Inspection.

The total number of ships inspected in detail in Dock was 1544, and consisted of 524 foreign-going ships and 1020 coastwise vessels, this number being an increase of 32 of the former, and a decrease of 98 of the latter, which decrease was caused by the Inspector's enforced absence from duty for some weeks, by an injury received in the discharge of his duty.

The Nationality of the Ships is shown here :—

British	...	...	...	1400
Norwegian	...	...	...	86
German	...	...	...	24
Swedish	...	...	...	9
Italian	...	...	...	7
French	...	...	...	4
Russian	...	...	...	4
Austrian	...	...	...	3
Greek	...	...	...	2
Dutch	...	...	...	2
American	...	...	...	1
Danish	...	...	...	1
Spanish	...	...	...	1
Total				<u>1544</u>

The result of the year's work is the best yet obtained, as the percentage of ships found with Sanitary defects was but 14·4%, as against 17·1% in 1897, the previous lowest result, and this improvement will be advanced as more consideration is given to the construction and maintenance of crew spaces.

In sea-going ships the improvement was 5·7% as compared with the year 1898 when the total ships with defects numbered 162 or 32·9%, whereas only 143 or 27·2% were discovered in the past year, though a greater number of ships was actually dealt with.

In coasting vessels the defects were 3·7% less than in 1898 as only 79 or 7·7% occurred, compared with 128 defectives or 11·4% found in the previous year.

The result confirms previous experience, that more than three times as many defects are found in ocean-going ships as compared with coasters; this arises from various conditions at sea that the latter are not exposed to.

The nature of the principal defects and nuisances was as follows :—

Unclean crew spaces	170
Crew spaces insufficiently lighted ...	3
Do. do. ventilated ...	10
Foul deposits or bilges	4
Water closets connecting to living spaces...	2
Do. in defective or foul state ...	4
Iron plates over or near bunks not lined ...	1
Leakages in crew spaces	48
Bad or suspected water supplies ...	11
Various dilapidations	13
	<hr/>
	266
	<hr/>

This number is exactly 100 less than the number found in 1898.

The chief source of improvement was that less dirty crew spaces existed, as but 170 or 10% were found, being 5·5% less than in the previous year.

This feature is noteworthy, as it plainly indicates that regular Sanitary Inspection is having good effects with the responsible officers and seamen concerned.

The other defects were also reduced in number, and probably have about reached the minimum until the old ships are replaced by others having better accommodation.

Only 3 cases of insufficient lighting were found, but 10 cases of deficient ventilation occurred, principally in Foreign owned steamers, where it appears many of the seamen prefer hot close quarters.

Foul deposits, closets connected with living spaces, and defective closets were in less number, viz., 4, 2 and 4 as against 2, 8 and 9 last year.

Leakages were also less amounting to 3% only.

Bad and suspected water supplies on ships were 3 in excess of the previous year.

Dilapidations were 4 less.

In dealing with these matters it was necessary to serve 222 notices or requirements on the Masters or Owners concerned, and the result obtained was that 203, or 91.4%, were complied with, but the remainder, mostly on Foreign owned vessels, were not complied with when the vessels left Port, and they have not returned.

Disinfection of Vessels.

Nine vessels were disinfected and fumigated, 5 of these came from Plague Infected Ports, and special efforts were successfully made to destroy rats, a large number being killed, and the ships were practically cleared of them.

The number of persons occupying the crew spaces examined, amounted to 17,326 an increase of 1333 on last year.

The Port Sanitary Inspectors at several Bristol Channel Ports have again rendered much assistance in following up information forwarded in respect of work required on ships leaving here for the Ports in question, and I have to thank them for their co-operation.

649 ships from Foreign Ports were visited in Kingroad or at the mouth of the river, and of these 61 were bound to the Port of Gloucester.

The Steam Launch "Luath" has proved very useful again in consequence of the existence of Plague at various places, a strict watch had to be kept on all vessels arriving from or having touched at any infected districts, and the work could not have been done so effectually without such means.

The number of tides worked in this duty and supplying Ship Hospital and survey work was 164.

Repairs to the boiler of the Launch under your instructions were carried out effectually by re-tubing, in the early part of the year, and it is now in good order.

On report that the time for survey and painting of the Launch's hull had arrived, your Committee ordered the work to be done. Accordingly the vessel was docked, cleaned and painted with non fouling composition, and survey of the hull, boiler and engines was made by Lloyd's Surveyor, and the necessary repairs to engines, etc., were carried out as required.

Much of this work was done by your own staff, and the crew is engaged when possible cleaning and painting the interior.

The Ship Hospital.

All repairs, maintenance, and painting that was required have been done by the ship's staff, except some repairs to the fresh water pump.

The Wards are kept in readiness for use on the shortest notice.

Port Hospital, Avonmouth

This Hospital is in good order and ready for use at any time.

In the early part of the year it was found that danger from fire existed by reason of the stove pipes having become defective, and these were replaced with cast iron pipes by the Engineer's workmen, no other extra expense has been incurred.

By order of your Committee I reported as to the pollution of the waters of the Floating Harbour by sewage from Ships, a copy is appended.

Tables A, B, C, D and E, giving full particulars of the work done, and diseases found, also follow.

I am, Gentlemen,

Your obedient Servant,

S. DIMOND,

Chief Port Sanitary Inspector.

**Report of the Port Sanitary Inspector in respect
of the pollution of the waters of the Floating
Harbour by sewage, etc. from Ships.**

To THE CHAIRMAN AND MEMBERS OF THE
HEALTH COMMITTEE.

June 5th, 1899.

GENTLEMEN,

In compliance with the resolution of your Committee of the 16th May last, I have made three inspections of all Vessels in Dock, on the dates mentioned in order to obtain, by observation and enquiry, approximate numbers of the Crews, and persons engaged discharging such ships.

The results were as follow :—

No. of various Vessels in Dock.		Approximate No. of persons living aboard.	Daily Average.	Approximate No. of Workmen. engaged.	Daily Average.
May 18th	51	250	} 302	333	} 400
„ 20th	45	236		272	
„ 25th	62	421		591	

These returns should be taken as a rather low estimate, as at these periods the trade of the Port was hardly up to the usual standard.

The whole of the persons living on ships use the closets, etc., thereon, and of the workmen engaged in discharging cargoes, I estimate that fully one third use the Ship's closets

daily, as there are no public or private closets available within reasonable distance of the Ships, when berthed below the Granary or on the open quays.

This estimate thus gives a daily average of 435 persons using Sanitary conveniences on Ships, between Cumberland Basin and the bridges.

There are only two Public Closets (Latrines) provided for the use of Dockers and Sailors. One is situate at Dean's Wharf, Canons' Marsh, and the other near the Granary at Prince's Wharf.

There are private closets at various Public Houses, on the Quays, Welsh Back, and Grove; and these are much used by the Dockers when the ships on which they are engaged are sufficiently near; otherwise the ship closets are used.

At most of the private wharves, including the timber yards, closets have been provided for the workmen engaged on the shore, but those engaged in discharging the cargo generally use the ship closets.

I beg to point out that the public wharves and quays are under the control of the Docks Committee and the important wharf from the Granaries to Gas House Ferry is in the control of the Great Western Railway Co. There are no sanitary conveniences of any kind provided at this Wharf, although large numbers of workmen are at times engaged there.

The Port Medical Officer of Health has kindly placed at my disposal information received from 6 chief ports of the Country, which I submit in tabular form :—

Port.	Are Dock-side Closets provided.	By whom provided.	Special restrictions imposed otherwise than Public Health Act provisions.	Nature of Docks.	Restrictions as to Bilges.
TYNEMOUTH	Yes	Dock Owners.	No	Closed Docks on Tidal River.	No
BARRY	Yes	Do.	No	Tidal Dock.	General instructions through Pilot to empty before entering Dock.
CARDIFF	Yes, some, but insufficient number	Do.	No	Tidal	No
LONDON	Yes	Do.	As nuisance only under Public Health Act, London, 91.	Docks and Tidal River.	Required to empty Bilges before entering Docks or going up river.
HULL	Yes	Do.	No	Tidal.	Instructions as above.
LIVERPOOL	Yes	Do.	No	Tidal.	No

In considering this question I think if sufficient closets were provided at convenient places, much of the pollution would be prevented, but it will not be effectually removed until Regulations prohibiting the use of ships' closets while in Dock are enforced, and I beg to submit that probably this is a question that can be dealt with by the Docks' Authority under their powers, also as to the provision of closets on their quays and wharves, as appears to be the custom at the six Ports referred to.

I am, Gentlemen,

Your obedient Servant,

S. DIMOND.

Port Sanitary.

T A L

SHIP INSPECTION AT BRISTOL, AVONMOUTH, PORT

Showing particulars of Inspection, t

FROM FOM

1899	Description of Ships.			British.	Foreign.	Ships having Foul or Dirty Crew Spaces.	With Defective Lighting.	With Defective Ventilation.	Foul Bilges or Deposits.	Water Closets or other places connected with Living Spaces.
	Port of Sailing.	Steamship.	Sailing.							
Jan.	From Foreign Ports.	40	0	32	8	12	...	2	...	...
Feb.	do.	41	7	37	11	7	...	1	...	...
Mar.	do.	29	10	27	12	5	...	...	1	...
April	do.	38	9	37	10	14	...	...	...	...
May	do.	21	8	23	6	3	1	1	...	...
June	do.	42	6	36	12	17	...	...	...	...
July	do.	34	8	30	12	8	...	...	2	...
Aug.	do.	24	7	22	9	4	...	...	...	2
Sept.	do.	46	10	35	21	7	1	...	1	...
Oct.	do.	45	5	43	7	9	...	3	...	...
Nov.	do.	48	11	35	24	10	...	1	...	...
Dec.	do.	30	5	23	12	4	...	...	...	...
Total		438	86	380	144	100	2	8	4	2

1899

COAST

Jan.	From Coastwise	22	98	120	...	6	1	1	...	...
Feb.	do.	18	74	92	...	4	...	...	...	...
Mar.	do.	15	102	117	...	11	...	...	...	...
April	do.	19	89	108	...	12	...	1	...	...
May	do.	3	33	38	...	5	...	...	...	...
June	do.	11	86	97	...	8	...	...	...	...
July	do.	15	69	34	...	8	...	...	...	...
Aug.	do.	11	61	72	...	4	...	...	...	...
Sept.	do.	13	68	81	...	6	...	...	...	...
Oct.	do.	7	76	83	...	2	...	...	...	...
Nov.	do.	4	55	59	...	4	...	...	...	...
Dec.	do.	10	61	71	...	...	...	...	...	...
Total }	From Coastwise	148	872	1020	...	70	1	2	...	...
	„ Foreign	438	86	380	144	100	2	8	4	2
Grand Totals		586	958	1400	144	170	3	10	4	2

Summ

Number of Ships Visited in Kingroad or River to pre
 Number of Ships Inspected in detail at Bristol, Avon
 Number of Ships on which disinfection was carried ou
 Number of Ships revisited to enforce compliance with

Population on Ships dealt wi

Bristol.

E A.

PORTISHEAD AND KINGROAD, DURING THE YEAR 1899.

Action taken, and Results.

PORTS.

Requiring lining of Iron Plates over Sleeping Bunks.	Leakages into Living Spaces.	Bad Water Supply or Unclean Tanks.	Overcrowding.	Dilapidations.	Total sanitary defects.	Verbal Notices complied with.	Verbal Notices in abeyance.	Written Notices complied with.	Written Notices in abeyance.	Ships visited or spoken in King road or River.	Re-visits to enforce Notices.	No of Persons inhabiting Ships inspected
...	7	...	...	1	24	14	1	1	1	37	14	933
...	6	...	...	...	14	5	...	5	1	40	11	981
...	3	...	...	4	14	6	1	6	3	52	18	829
...	4	...	...	...	18	12	2	4	...	42	9	1011
...	2	3	...	...	10	3	...	4	...	46	7	643
...	1	1	...	...	19	11	4	2	...	60	24	1140
...	4	1	...	...	16	6	...	2	...	46	8	1242
...	...	1	...	...	7	1	...	3	...	56	13	888
...	6	3	...	...	18	12	...	2	1	78	17	1276
...	5	...	...	...	17	7	...	5	1	83	15	1427
...	5	1	...	...	17	8	...	2	1	63	20	1510
...	4	...	...	...	8	5	...	1	...	46	9	888
0	47	10	0	5	182	90	8	37	8	649	157	12768

USE.

...	...	...	...	3	11	9	1	...	...	...	9	544
1	...	...	...	...	5	4	...	...	...	...	4	401
...	...	...	...	...	11	11	...	...	...	...	11	508
...	...	...	...	...	13	11	2	...	...	...	11	499
...	1	...	...	...	6	5	...	...	...	...	5	205
...	...	...	...	1	9	8	...	...	...	...	8	415
...	...	...	...	...	8	8	...	...	...	...	8	373
...	...	...	...	...	4	4	...	...	...	...	4	315
...	...	...	...	2	8	8	...	...	...	...	8	373
...	...	...	...	...	2	1	...	1	...	...	2	372
...	...	...	...	2	6	5	...	...	...	...	5	239
...	...	1	...	...	1	...	...	1	...	...	...	314
1	1	1	...	8	84	74	3	2	...	...	74	4558
...	47	10	...	5	182	90	8	37	8	649	157	12768
1	48	11	0	13	266	164	11	39	8	649	231	17326

y.

importation of infectious disease	...	...	649
h, and Portishead Docks	...	...	1544
...	...	...	9
otices	...	...	231
Total Visits, etc.	...	...	2433

... 17,326

Port Sanitary. **TABLE B.** **Bristol.**
SHOWING PROGRESSIVE WORK OF SHIP INSPECTION SINCE INSTITUTED.

Year.	Number of Ships Inspected.	CONDITION.			NOTICES.		Percentage of work known to be done.
		Good.	Unsatisfactory.	Percentage having one or more Defects.	Served.	Complied with.	
1885 (4 months)	191	109	82	43 per cent.	82	34	41 per cent.
1886	722	577	145	20 per cent.	186	85	45 per cent.
1887	1461	1073	388	26 per cent.	388	270	69 per cent.
1888	1371	1072	299	22 per cent.	313	206	66 per cent.
1889	1339	995	344	25 per cent.	391	303	77 per cent.
1890	1224	874	350	28 per cent.	386	314	81 per cent.
1891	1322	950	372	28 per cent.	439	366	83 per cent.
1892	1265	1004	261	21 per cent.	317	289	91 per cent.
1893	1211	998	213	17·5 per cent.	222	204	92 per cent.
1894	1594	1204	390	24 per cent.	390	359	92 per cent.
1895	1390	1106	284	20·4 per cent.	284	263	92·6 per cent.
1896	1675	1383	292	17·4 per cent.	292	266	91 per cent.
1897	1645	1363	282	17·1 per cent.	282	257	91·1 per cent.
1898	1610	1320	290	18·0 per cent.	290	266	91·7 per cent.
1899	1544	1322	222	14·4 per cent.	222	203	91·4 per cent.

The Vessels unaccounted for left the Port and have not been seen since, but there is reason to think the required work has been done in most cases of British owned Ships. It is the custom of many ship owners to get repairs done at home or at loading ports, and some of those so done cannot be added to our returns for want of definite information, this applies mostly to Foreign owned Ships.

Port Sanitary.

TABLE C.

Infectious Diseases on Ships during the year 1899.

Bristol.

1899	Name of Ship.	Where from.	Nature of Disease.	No. of Cases.	Died.	Re-covered.	REMARKS.
June 25th	"Glengoil" S.S.	Newport (News)	Enteric	1	1	0	The patient was removed to the General Hospital. Disinfection of berths, clothing, &c. carried out under supervision of Port Officers, water tanks emptied and cleaned.
July 31st	"Urbino" S.S.	Alexandria	do	1	0	0	Result unknown. This case developed, after leaving the ship, at Greenwich Hospital.
Aug. 20th	"Derwent Holme"	Quebec	do.	1	0	1	The patient was treated at the General Hospital, and all the usual disinfection of berths, cloths, &c., and water tanks was attended to.
Nov. 9th	"Bat" S.S.	Rosario	do.	1	1	0	This man was taken to the General Hospital. The necessary disinfection, and emptying and cleaning of water tanks carried out.
Totals				4	2	1	

Other Diseases.

Feb. 21st	"Fulham" S.S.	Newport (News)	Malaria	1	0	0	Proceeded to Sailors' Hospital at Cardiff. Result not known.
May 25th	"Alacrity" S.S.	River Plate	Diarrhoea	1	0	1	
June 24th	"Lucina" S.S.	Rosario	do.	2	0	2	
June 28th	"Nina Mendl"	Alexandria	do.	1	0	1	
July 18th	"Libra"	Archangel	do.	1	0	1	Treated at Bristol General Hospital.
July 31st	"Valhalla" S.S.	Newport (News)	do.	1	0	1	
Aug. 14th	"Saluto"	Rosario	do.	1	0	1	
Oct. 12th	"Uganda" S.S.	Marinpol	do.	1	0	1	Patient treated at Gibraltar Hospital.
Totals				9	0	8	

Port Sanitary.

TABLE D.

Bristol.

Return of Cases of Sickness reported to have occurred during the voyage,
or found on arrival in Port.

1899.	Small Pox.	Cholera.	Diphtheria.	Enteric Fever.	Malaria Fever and Ague.	Yellow Fever.	Diarthoea.	Dysentery.	Influenza.	Scurvy.	Veneral Diseases.	Rheumatism.	Phthisis and Tuberculosis.	Lung Diseases.	Heart Apoplexy.	Heart Diseases.	Inflammation of Bowel.	Disease of Kidney	Hernia.	Urinary Diseases.	Accidents.	Dropsy.	Exposure.
January	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
February	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-
March	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-	1
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	1	-	-	3	-	-	-	2	-	-	-	1	-	-	-	1	-	-	-	-
July	-	-	-	1	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
August	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
November	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
December	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Totals	-	-	-	4	1	-	8	-	-	-	4	1	1	3	1	1	-	1	1	1	4	1	5

ANNUAL REPORT OF CANAL BOAT INSPECTION FOR THE YEAR 1899.

TO THE CHAIRMAN AND MEMBERS
OF THE HEALTH COMMITTEE.

GENTLEMEN,

In compliance with Section 3 of the Canal Boats Acts, I beg to hand you a Report of the work done under the Provisions of the said Acts and Regulations, with a summary of the conditions found on the Boats examined.

The duties have been discharged as before by the Chief Port Sanitary Inspector, in conjunction with Ship Inspection work in the Harbour, and he is remunerated in connection therewith.

During the year, 69 Canal Boats were examined, and on 8 of these contraventions or defects were found and dealt with as follows :—

The majority of Canal Boats trading to this City are regular carriers to certain districts, and in but few of them are found the wives or families of the persons working the Boats.

Many of the Boats are worked in pairs by three men, consequently the Regulation Cabin accommodation was available.

PARTICULARS OF INSPECTION.

(A)—Registration

The Boats examined were registered.

(B)—*Notification of Change of Masters.*

This Authority is not a Registration Authority, so none have been given.

(C)—*Absence of Certificates.*

Certificates were produced when required.

(D)—*Defective Marking.*

Two cases were noted and dealt with.

(E)—*Overcrowding.*

No cases were found.

(F)—*Separation of Sexes.*

No contravention of the Regulations was found.

(G)—*Cleanliness.*

One dirty cabin was found and cleaned.

(H)—*Ventilation.*

The regulation openings were provided in all cases.

(I)—*Painting Cabin Interiors.*

This was required and ordered in three cases.

(J)—*Provision of Fresh Water Vessels.*

The Boats were fairly well supplied, but they were temporarily absent in two cases.

(K)—*Removal of Bilge Water.*

This regulation was carried out,

(L)—*Notification of Infectious Disease.*

None was found or reported.

(M)—*Refusal to Admit.*

None in any way.

(N)—*Dilapidation and Leakage.*

It was necessary to take steps to get such defects remedied in four cases, and three notices were complied with. The remaining Boat has gone out of use.

The total contraventions and defects dealt with was 12, and two formal and six informal written notices were given, and complied with, with the one exception in which the Boat is laid up.

I am, Gentlemen,

Your obedient Servant,

S. DIMOND,

Inspector of Canal Boats.

Examined :—

D. S. DAVIES, M.D.,

Port Medical Officer of Health.

January, 1900.

Port Sanitary Offices,

40 Prince Street, Bristol.

END.

